

Stated Meeting, March 18, 1881.

Present, 13 members.

President, Mr. FRALEY, in the Chair.

The resignation of Dr. C. J. Stillé, dated February 17, 1881, was received and accepted.

A letter of thanks for the gift of a copy in oil of the portrait of Michaux, was received from the Commissioners of the Fairmount Park, dated March 12, 1881.

A letter requesting the deposit of historical documents in the hall of the Historical Society of Pennsylvania was referred to the Library Committee, the Librarian and Dr. Horn, to report.

Letters of acknowledgment were received from the London Statistical Society (106 and 11st); the Society of Antiquaries (106); New Bedford Library (107); and the Cincinnati Observatory (107).

Letters of envoy were received from the Geological Survey of India, July, 1880; the Austrian Academy, Aug. 25; Prof. W. F. Hewitt, Ithaca, March 16; and the U. S. Coast and Geodetic Survey, March 15, 1881.

Donations for the Library were received from the Geological Survey of India; the Academies at Turin, Rome, Modena, Copenhagen and Brussels; the Turin Observatory; the Institutes at Milan and Venice; Prof. Gio. Capellini, Bologna; the Geological Commission at Florence; the Geographical Societies at Paris and Bordeaux; the Flora Batava; the British Topographical Society; London Nature; the American Statistical Association; Mr. Samuel Scudder; Museum C. Z. Cambridge; New Bedford Library; Dr. Geo. W. Hawes; American Journal A. and S.; New York Academy of Sciences, State Museum, and Prof. Jas. Hall; Prof. W. T. Hewett, Ithaca; Buffalo Nat. Hist. Society; Trenton Experimental Station; Franklin Institute, Num. and Antiq. Society, Journal of Pharmacy, Medical News, Mr. Reuben Haines and Mr. H. Phillips, Jr., Philadel-

phia; Gov. Hoyt; U. S. N. Observatory; U. S. C. and G. Survey; Mr. Jed. Hotchkiss, Staunton, Va.; San Franc. Mer. Association; Min. de Fom. and M. M. Barcena, Mexico.

The death of Dr. John J. Bigsby was announced by the Secretary, with remarks on his early connection with geological exploration in America.

The death of Prof. John Johnston, at Middlebury, Connecticut, in 1879, was reported.

A memoir On the Preglacial drainage of Lake Erie and the other great lakes, by Dr. J. W. Spencer, was read and illustrated by the Secretary.

A paper on "A Geological Section at St. Mary's, in Elk County, Pa.," was read by Mr. Ashburner.

Pending nominations, Nos. 927 to 932, and new nomination, No. 933, were read.

And the meeting was adjourned.

Discovery of the Preglacial Outlet of the Basin of Lake Erie into that of Lake Ontario; with Notes on the Origin of our Lower Great Lakes. By J. W. Spencer, B. A. Sc., Ph.D., F.G.S., King's College, Windsor, N. S.

(Read before the American Philosophical Society, March 18, 1881.)

SUMMARY.

The object of this paper is to bring before the scientific world the following observations, bearing on the Preglacial Drainage and origin of our Great Lake Basins:

1. The Niagara escarpment, after skirting the southern shores of Lake Ontario, bends at nearly right angles in the neighborhood of Hamilton, at the western end of the lake; thence the trend is northward to Lake Huron. At the extreme western end of the lake this escarpment (at a height of about 500 feet) encloses a valley gradually narrowing to four miles, at the meridian of the western part of the city of Hamilton, where it suddenly closes to a width of a little more than two miles, to form the eastern end of the Dundas valley (proper). This valley has its two sides nearly parallel, and is bounded by vertical escarpments, which are capped with a great thickness of Niagara limestone, but having the lower beds of the slopes composed of Medina shales. On its northern side the escarpment extends for six miles to Copetown; but westward of this village it is covered with